University of Connecticut
Math 3650/5650: Financial Mathematics II

Section 1

Syllabus – Spring 2026

MATH 3650/5650: FINANCIAL MATHEMATICS II
LEARNING OBJECTIVES

Goal: The primary goal of Math 3650/5650 is to develop a deep understanding of the theory and practice of corporate finance. Another goal is to cover the following finance and investment learning objectives established by the Society of Actuaries and Casualty Actuarial Society in order to qualify for Validation by Educational Experience (VEE) for Corporate Finance.

Learning Objectives: Corporate finance is a branch of financial economics that studies how corporations decide which business opportunities to pursue, how they determine the capital needed for those business opportunities and how to raise the capital to finance these business opportunities. Accordingly, the learning objectives of this course are to master the concepts underlying the following topics:

- Financial Statement Analysis: Balance Sheet, Income Statement and Cash Flow Statement
- Arbitrage and Financial Decision Making
- Term Structure of Interest Rates
- Defining and Measuring Risk
- Investment Decision Rules: Net Present Value versus Internal Rate of Return
- Fundamentals of Capital Budgeting
- Valuing Stocks, Bonds and Options
- The Structure and Role of Capital Markets
- Modern Portfolio Theory: Efficient Portfolios, Capital Asset Pricing Model and Cost of Capital
- Efficient Markets
- Capital Structure: Equity versus Debt Financing
- Financial Distress, Management Incentives and Information
- Payout Policy
- Financial Planning
- Financing: Raising Equity Capital and Debt Offerings

MATH 3650/5650: FINANCIAL MATHEMATICS II

Textbook: *Corporate Finance: (Sixth Edition)* by Jonathan Berk and Peter Demarzo

Study Note: IFM-21-18 SOA study note: *Measures of Investment Risk, Monte Carlo Simulation, and Empirical Evidence on the Efficient Market Hypothesis* (provided on HuskyCT)

Calculator: A financial calculator and a working knowledge of Microsoft Excel are needed for this class. **Smartphones are not allowed to be used in class**.

Instructor: **Scott Schneider**
Office: Montieth 129
Email: scott.schneider@uconn.edu

Office hours: Tuesday and Thursday: Prior to class: 9:30 am until 10:30 am

I prefer you meet with me during office hours but will also schedule meetings at other times by appointment. See me before or after class or send me an email with your availability to schedule an appointment. Appointments on Monday, Wednesday, or Friday will be online in the Webex classroom. I will confirm the day and time via email before we meet.

Class: Meeting times: Tuesdays and Thursdays 11:00 am - 12:15 pm
Location**: Montieth 421**

If we need to meet remotely, we will use Webex
Webex classroom address:
https://uconn-cmr.webex.com/meet/scs23004

I have put a link to the Webex classroom on HuskyCT on the main page for this class.

CLASS ATTENDANCE

Class will start promptly at 11:00 am. In consideration of your fellow students, please plan to be in class at that time. While attendance will not be a direct consideration in your grade for this class, students who attend class regularly tend to do much better in the class than those who do not participate in the discussions.

Exams will be passed out at the beginning of class and latecomers will not be given extra time to take the exam. You are responsible for all information and announcements covered in class. If you are late or unable to attend class, it is your responsibility to obtain missed information. The information in this syllabus may be modified as the course progresses. These modifications will be posted on HuskyCT and will be included in updated versions of the syllabus.

CLASS FORMAT

Our classes will follow this general format:

- At the beginning of class, we will review and discuss the answer key for any quizzes, exams or graded assignments and any questions you may have on that material. This is intended to be a DISCUSSION, so come prepared.
- Short discussion of current financial markets
- Recap of the major points in the previous chapter
- Discussion of the scheduled material
- Assignments and homework

I plan to post the lecture notes to HuskyCT by 8 pm the night before the lecture.

CLASS PREPARATION

You are responsible for reading all assigned material **BEFORE** the material is covered in class. Even if the content is not clear, prior exposure will familiarize you with the terminology and allow you to focus on understanding the concepts discussed during class. As noted above, lecture notes will be posted to Husky CT the evening prior to the class. If you wish to take notes using the posted lecture notes, I suggest that you print out a copy of the slides prior to class or bring your laptop/tablet to class to access slides electronically.

Assignments will be assigned **AFTER** the material is covered in class. I encourage you to see me to discuss problems you are having with these assignments.

HOMEWORK

I do not plan to collect homework assignments. Homework is intended to give you practice questions on course content and will help you understand the material and prepare you for exams. Answers to homework problems will be posted to HuskyCT.

Grading Plan:

Pricing Project	27.8%	100 points
Mid-Term Exam #1	16.7	60
Mid-Term Exam #2	20.8	75
Final Exam	34.7	125
	100.0%	360 points

In addition, you will have the opportunity to earn extra credit points, typically through extra questions on the exams. Total possible extra credit points will be no more than 20. **All** students will have equal opportunity to earn extra credit points. **No other extra credit opportunities will be provided to any individuals.**

Grading – Numerical and Alpha

A	= 93 – 100
A-	= 90 – 92
B+	= 87 – 89
B	= 83 – 86
B-	= 80 – 82
C+	= 77 – 79
C	= 73 – 76
C-	= 70 – 72
D+	= 67 – 69
D	= 63 – 66
D-	= 60 – 62
F	= < 60

Please note: It is **vital** that you keep up with the excel project as we discuss it in class. Your written project will be due at least 3 weeks after we finish building the pricing model in class! That's more than enough time to write an excellent report. There will be **absolutely No exceptions nor extensions for late work.**

MATH 3650/5650: FINANCIAL MATHEMATICS I
TENTATIVE SCHEDULE

Tuesday	Thursday
January 20 Intro/Chapter 1	January 22 Chapter 2
January 27 Chapter 2	January 29 Chapter 2 plus Appendix for Chapter 3
February 3 Chapter 3 and Appendix for Chapter 3	February 5 Chapter 7
February 10 Chapters 7 and 8 Project day 1 – YRT Model	February 12 Chapters 7 and 8 Project Day 2-Level premium
February 17 RBC and Benchmark Surplus Project Day 3	February 19 Assign Project
February 24 Chapter 5	February 26 Chapter 24 Sensitivity tests Due!
March 3 Prep for Exam #1	March 5 Exam #1 - Chapters 1-3, 5, 7, 8, and 24
March 10 Review Exam #1 Results SOA Study Note (Monte Carlo Simulations)	March 12 ***Project Due*** Chapter 9, SOA Study Note (efficient markets)
March 17 **SPRING BREAK** **NO CLASSES**	March 19 **SPRING BREAK** **NO CLASSES**
March 24 Chapter 10	March 26 Chapter 11

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TENTATIVE SCHEDULE

Tuesday	Thursday
March 31 Chapter 12	April 2 Review Project Results Chapter 13
April 7 Chapters 14 and 15	April 9 Chapter 16
April 14 Prep for Exam #2	April 16 Exam #2 Chapters 9-16, SOA Study Note
April 21 Review Exam #2 Results Chapter 17	April 23 Chapter 23
April 28 Prep for Final Exam	April 30 Prep for Final Exam
Week of May 4 Final Exam – Cumulative Date TBD Time TBD Location TBD	

A. Academic Integrity

A fundamental tenet of all educational institutions is academic honesty; academic work depends upon respect for and acknowledgement of the research and ideas of others. Misrepresenting someone else's work as one's own is a serious offense in any academic setting and it will not be condoned.

Academic misconduct includes, but is not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for academic evaluation (e.g. papers, projects, and examinations); any attempt to influence improperly (e.g. bribery, threats) any member of the faculty, staff, or administration of the University in any matter pertaining to academics or research; presenting, as one's own, the ideas or words of another for academic evaluation; doing unauthorized academic work for which another person will receive credit or be evaluated; and presenting the same or substantially the same papers or projects in two or more courses without the explicit permission of the instructors involved.

A student who knowingly assists another student in committing an act of academic misconduct shall be equally accountable for the violation and shall be subject to the sanctions and other remedies described in *The Student Code*.

Please see the link to the Academic, Scholarly, and Professional Integrity and Misconduct Policy. https://policy.uconn.edu/2023/07/11/academic-scholarly-and-professional-integrity-and-misconduct-aspim-policy-on/

B. Code of Conduct for Candidates

Students who earn a grade of B- or higher, qualify for Validation by Educational Experience (VEE) credit for Corporate Finance from the Society of Actuaries (SOA) and Casualty Actuarial Society (CAS). Actuarial Candidates, as defined by these organizations, must adhere to the Code of Conduct for Candidates (SOA) and Code of Professional Ethics for Candidates (CAS). A copy of each is available on HuskyCT in the syllabus section and is considered part of this syllabus. **Any violations of these professional codes of conduct for candidates will be reported to the Society of Actuaries and/or Casualty Actuarial Society.**

C. Final Exams

Final exam week for Spring, 2026 takes place from Monday, May 4 through Saturday, May 9 (Final exam date, time and location for this class is TBD). Students are required to be available for their exam during the stated time. If you have a conflict with this time, you must contact the Dean of Students Office to discuss the possibility of rescheduling this exam.

Please note that vacations, previously purchased tickets or reservations, graduations, social events, misreading the exam schedule and over-sleeping are not viable excuses for missing a final exam. If you think that your situation warrants permission to reschedule, please contact the Dean of Students Office to discuss rescheduling.